Ontario

Ministry of Northern Development and Mines

Mines and Minerals Division

ONTARIO GEOLOGICAL SURVEY

GEOLOGICAL DATA INVENTORY FOLIO 462

HARRIS TOWNSHIP

Compiled by the Staff of
the Resident Geologist's Office
Cobalt

LOCATION MAP Scale: 1:1 013 760 or 1 inch to 16 miles

CANADA ONTARIO Mineral Development Exploration Minérale

This project is part of the five year Canada–Ontario 1985 Mineral Development Agreement (COMDA), a subsidiary agreement to the Economic and Regional Development Agreement (ERDA) signed by the governments of Canada and Ontario.

90-01087/

CONVERSION FACTORS FOR MEASUREMENTS IN ONTARIO GEOLOGICAL SURVEY PUBLICATIONS

If the reader wishes to convert imperial units to SI (metric) units or SI units to imperial units the following multipliers should be used:

CONVERSION FROM SI TO IMPERIAL			CONVERSION FROM IMPERIAL TO SI		
SI Unit	*Multiplied by*	*Gives*	*Imperial Unit*	*Multiplied by*	*Gives*
			LENGTH		
1 mm	0.039 37	inches	1 inch	**25.4**	mm
1 cm	0.393 70	inches	1 inch	**2.54**	cm
1 m	3.280 84	feet	1 foot	**0.304 8**	m
1 m	0.049 709 7	chains	1 chain	**20.116 8**	m
1 km	0.621 371	miles (statute)	1 mile (statute)	**1.609 344**	km
			AREA		
1 cm^2	0.155 0	square inches	1 square inch	**6.451 6**	cm^2
1 m^2	10.763 9	square feet	1 square foot	**0.092 903 04**	m^2
1 km^2	0.386 10	square miles	1 square mile	2.589 988	km^2
1 ha	2.471 054	acres	1 acre	0.404 685 6	ha
			VOLUME		
1 cm^3	0.061 02	cubic inches	1 cubic inch	**16.387 064**	cm^3
1 m^3	35.314 7	cubic feet	1 cubic foot	0.028 316 85	m^3
1 m^3	1.308 0	cubic yards	1 cubic yard	0.764 555	m^3
			CAPACITY		
1 L	1.759 755	pints	1 pint	0.568 261	L
1 L	0.879 877	quarts	1 quart	1.136 522	L
1 L	0.219 969	gallons	1 gallon	**4.546 090**	L
			MASS		
1 g	0.035 273 96	ounces (avdp)	1 ounce (avdp)	28.349 523	g
1 g	0.032 150 75	ounces (troy)	1 ounce (troy)	**31.103 476 8**	g
1 kg	2.204 62	pounds (avdp)	1 pound (avdp)	**0.453 592 37**	kg
1 kg	0.001 102 3	tons (short)	1 ton (short)	**907.184 74**	kg
1 t	1.102 311	tons (short)	1 ton (short)	**0.907 184 74**	t
1 kg	0.000 984 21	tons (long)	1 ton (long)	**1016.046 908 8**	kg
1 t	0.984 206 5	tons (long)	1 ton (long)	**1.016 046 908 8**	t
			CONCENTRATION		
1 g/t	0.029 166 6	ounce (troy)/ ton (short)	1 ounce (troy)/ ton (short)	34.285 714 2	g/t
1 g/t	0.583 333 33	pennyweights/ ton (short)	1 pennyweight/ ton (short)	1.714 285 7	g/t

OTHER USEFUL CONVERSION FACTORS

1 ounce (troy)/ton (short)	20.0	pennyweights/ton (short)
1 pennyweight/ton (short)	0.05	ounce (troy)/ton (short)

One gram(g) per tonne is equivalent to one part per million (1 ppm).

NOTE–Conversion factors which are in bold type are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries published by The Mining Association of Canada in co-operation with the Coal Association of Canada.

NTS Number 31M/12 and part of 31M/5

Mining Claim Map Number M-493

This project is part of the Canada-Ontario Mineral Development Agreement (COMDA).

STATEMENT: This inventory is unedited. Discrepancies may occur for which the Ontario Geological Survey does not assume liability. Information from this source may be quoted if credit is given. Reference to this inventory should be made as follows:

Ontario Geological Survey
1989: Harris Township; Ontario Geological Survey Data Inventory Folio 462, compiled by the staff of the Resident Geologist's Office, Cobalt: 45 pages and 2 Maps.

Original Compilation by: Patricia Anderson, June 25, 1987

Date	Page Revised	Revised by

Date	Page Revised	Revised by

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ACCOMPANYING MAPS

Property Location Map - 1 Map

Exploration Data Map - 1 Map

Map Scale 1: 31 680 or 1 inch to ½ mile

DATA SOURCES CHECK LIST

NOTE: The following sources have been searched to compile the data for this area. If no reference data was found the appropriate box is marked 'no'; if reference data was found, the box is marked 'yes'.

All reference data found are included in the following pages. If the box is blank, the data source has not yet been searched. If the box is marked N.A., the source item is Not Applicable to this area and therefore not searched.

	SOURCES OF DATA	Data	Initial
1	Resident Geologist's Office Files	Yes	D.P.A.
2	Assessment Files Research Office, Toronto	No	D.P.A.
3	ODM General Index; 9 volumes	Yes	D.P.A.
4	Catalogue of Airborne Geophysical Surveys (ODM)	No	D.P.A.
5	ODM Mineral Resources Circulars and OGS Mineral Deposits Circulars	Yes	D.P.A.
6	ODM Industrial Mineral Reports	No	D.P.A.
7	Bibliography of Post Precambrian Theses - Karrow (ODM MP 1)	Yes	D.P.A.
8	Bibliography of Precambrian Theses - Ginn (ODM MP 2)	No	D.P.A.
9	Newspaper Clippings File	Yes	D.P.A.
10	GSC Index to Publications	Yes	D.P.A.
11	OGS Index to Published Maps and Reports - MP 77 and Supplements to MP 77	Yes	D.P.A.
12	OGS Index Maps	Yes	D.P.A.
13	Source Mineral Deposit Records (O.G.S.)	Yes	D.P.A.
14	Author - Subject Articles File	Yes	D.P.A.
15	Miscellaneous Papers: ODM & OGS	Yes	D.P.A.
16	ODM Geological Circulars: OGS Study Series	No	D.P.A.
17	ODM Preliminary Reports: ODM Bulletins	No	D.P.A.
18	ODM – OGS Open File Reports	Yes	D.P.A.
19	OGS Northern Ontario Engineering Geology Terrain Studies	Yes	D.P.A.
20	OGS Aggregate Resources Inventory Papers	N.A.	D.P.A.
21	OGS Mineral Potential Maps	Yes	D.P.A.
22	Theses on File, Cobalt	No	D.P.A.
23	Aerial Photographs on File, Toronto	Yes	D.P.A.
24	Aerial Photographs on File, Cobalt	Yes	D.P.A.

METALS AND MINERALS REFERENCES LIST

△ anh. . . . . .Anhydrite
△ ank. . . . . .Ankerite
▲ anna . . . . . Annabergite
△ ap. . . . . .Apatite
▲ arg . . . . . Argentite
△ As . . . . . .Arsenic
△ asp . . . . . .Arsenopyrite
△ asb . . . . . .Asbestos
△ ba. . . . . .Barite
△ be. . . . . .Beryl
△ Bi. . . . . .Bismuth
△ bn . . . . . .Bornite
△ bran . . . . . .Brannerite
△ bruc . . . . . .Brucite
△ Cd . . . . . Cadmium
△ calc. . . . . .Calcite
△ carb . . . . . .Carbonate
△ cel . . . . . .Celestite
△ cc. . . . . .Chalcocite
▲ cp. . . . . .Chalcopyrite
▲ ch. . . . . .Chert
▲ clay . . . . . .Clay
▲ Co . . . . . Cobalt
△ cob. . . . . Cobaltite
△ cb. . . . . .Columbite
▲ Cu . . . . . .Copper
△ cor . . . . . Corundum
▲ dol . . . . . Dolomite
△ ep. . . . . Epidote
△ ery . . . . . Erythrite
△ fel . . . . . .Feldspar
△ fl . . . . . .Fluorite (flurospar)
△ fu. . . . . .Fuchsite
▲ gn. . . . . .Galena
△ gt . . . . . .Garnet
△ goe . . . . . .Goethite
△ Au . . . . . Gold
△ gf . . . . . .Graphite
△ gl . . . . . Gravel
▲ gyp. . . . . .Gypsum
▲ hem . . . . . Hematite
△ il . . . . . .Ilmenite
△ Fe . . . . . .Iron
▲ IF. . . . . Iron Formation
△ jas . . . . . Jasper
△ kaol . . . . . .Kaolinite (kaolin)
△ ky . . . . . Kyanite
▲ Pb . . . . . Lead
▲ lim . . . . . Limonite
△ Li. . . . . Lithium
▲ mgst . . . . . .Magnesite
▲ mag . . . . . .Magnetite
△ mc . . . . . Malachite
△ Mn . . . . . Manganese
△ mb . . . . . .Marble
△ mar. . . . . Marcasite
△ ma . . . . . .Marl
△ mi . . . . . Mica
△ ml . . . . . .Millerite
△ mo . . . . . Molybdenite
△ Mo . . . . . .Molybdenum
△ mon . . . . . Monazite
△ ne. . . . . Nephelite (nepheline)
△ nc. . . . . .Niccolite
△ Ni. . . . . Nickel
△ Nb . . . . . .Niobium
△ Pd . . . . . .Palladium
△ peat . . . . . .Peat
△ pent . . . . . .Pentlandite
△ Pt. . . . . .Platinum
▲ py . . . . . .Pyrite
△ pyl . . . . . Pyrochlore
△ pyrl . . . . . .Pyrolusite
▲ po . . . . . .Pyrrhotite
△ q . . . . . .Quartz
△ qcv . . . . .Quartz carbonate vein
△ ra. . . . . .Radioactive minerals
△ RE . . . . . .Rare Earths
△ sd. . . . . Sand
△ sgl . . . . . Sand and gravel
△ ss . . . . . .Sandstone
△ scap . . . . . Scapolite
△ shee . . . . . .Scheelite
△ serp . . . . . Serpentine
▲ sh. . . . . .Shale
△ sid . . . . . Siderite
△ si . . . . . .Silica
▲ Ag . . . . . .Silver
△ sl . . . . . Slate
▲ sm . . . . . .Smaltite
△ sod . . . . . Sodalite
△ spec . . . . . Specularite
▲ sp. . . . . .Sphalerite
△ spd . . . . . .Spodumene
△ staur . . . . . .Staurolite
△ stib. . . . . Stibnite
△ st . . . . . .Stone
△ talc. . . . . .Talc
△ Te . . . . . Tellurium
△ td. . . . . Tetrahedrite
△ th. . . . . .Thorite
△ Th . . . . . .Thorium
△ thuc . . . . . Thucholite
△ ti . . . . . Titanite
△ Ti. . . . . Titanium
△ tour . . . . . .Tourmaline
△ trap . . . . . .Trap rock
△ W. . . . . Tungsten
△ uran . . . . . Uraninite
△ U . . . . . .Uranium
△ verm . . . . . .Vermiculite
△ Y . . . . . Yttrium
▲ Zn . . . . . .Zinc
△ zr. . . . . Zircon
▲ ls . . . . . .Limestone
▲ ars. . . . . .Arsenide

Solid triangles indicate metal and mineral occurrences shown on the accompanying maps or listed in Drillhole Summary.

MINERAL OCCURRENCES

Map Ref. Letter	Name(s)	Mineralization	Source Mineral Deposit Record	References in OGS Mineral Deposits Circulars & OGS Industrial Mineral Reports	Additional References and/or Remarks
A.	Benner, K.J. (Benner-Harris)	Ag-major Co, Cu, Pb, Zn-minor	T-0255	MRC 10, p.323	OGS, 1965, GR36, pp.59-63 OGS, 1964, Map 2066, Casey and Harris Township Harris Township, AF Rayrock Mines Limited
B.	Harmak (Dolphin-Miller)	Ag, Co-major	T-0256	NMI-31M/12, Ag2 MRC 10, p.324	Northern Miner, March 29, 1979, p.3, Better Days OGS, 1965, GR36, pp.63-64 OGS, 1964, Map 2066, Casey & Harris Township Harris Township AF, Harmak Mining Co. Ltd. Casey Cobalt Silver Mining Co. Dolphin-Miller Mines Ltd. Langis Silver and Cobalt Mining Co. Ltd. Past Producer, 1964-65

GDIF FORM NO. 1

MINERAL OCCURRENCES

Map Ref. Letter	Name(s)	Mineralization	Source Mineral Deposit Record	References in OGS Mineral Deposits Circulars & OGS Industrial Mineral Reports	Additional References and/or Remarks
C.	Lake Timiskaming Occurrence	IF		MDC 11, pp.466	ODM, 1964, Map 2066 GSC, 1957, Map 511G ODM, 1965, GR36, p.27-32 Harris Township, AF Lake Timiskaming No.1 Drillhole
D.	Harris Township Occurrence	ls-minor		MDC 26, p.11	ODM 1965, GR36, p.52-53 ODM 1965, Map 2066
E.	Penna Shaft (Agnico-Eagle Mines Ltd.)	Ag,Co-major			Agnico-Eagle Mines Ltd. Langis Mine

TYPE OF WORK

Numbers below represent the year in which the work was done; e.g., 68 for 1968.

EXPLORATION DATA filed at the RESIDENT GEOLOGIST'S OFFICE — COBALT — COMPANY/AUTHOR (file number)	GEOLOGICAL	GEOCHEMICAL	TRENCHING, STRIPPING	DRILLING	ASSAY DATA	UNDERGROUND WORK	PROSPECTUS, NOTES, CORRESPONDENCE	AIRBORNE MAGNETOMETER	AIRBORNE ELECTROMAGNETIC	AIRBORNE RADIOMETRIC	GROUND MAGNETOMETER	GROUND ELECTROMAGNETIC	GROUND RADIOMETRIC	INDUCED POLARIZATON	SELF POTENTIAL	RESISTIVITY			
1 Casey #3 Shaft Casey Cobalt Silver Mining Co. (operated by Mining Corp. of Canada Ltd., 1907-1918) Harris & Casey Twp.						08-22 40 46-47	47												
2 Langis Silver & Cobalt Mining Co. Ltd. Harris & Casey Twp.				57 58 59 60 63	57 59 60 63	56-66	59 60 69												
3 Agnico-Eagle Mines Ltd. Harris & Casey Twp.				79 85-87	85-87	79-87						87							
4 Cocase Prospecting Syndicate (1947, J.Koza) Harris & Casey Twps. -All work in Casey Twp; -Mined from Casey(Langis) #1 in Casey Twp. extending under Harris Twp.						47													

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HARRIS TOWNSHIP

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MISCELLANEOUS DATA

AGE DATING

Site	Method	Material	Reference	Result
A.	Rb/Sr	Volcanics	MDC 10, p.323	3100 my
A.	Rb/Sr	Sediment	MDC 10, p.323	2150 my
A.	Rb/Sr	Ore	MDC 10, p.323	2150 my

LANDSAT COLOUR PHOTO - NTS 31M

LS	TR	FR	Date of Imagery	Band	Cycle/Day
2	20	27	13/10/81	C_1	136/10

on file in Cobalt Office

GDIF FORM NO.6

HARRIS TOWNSHIP

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TYPE OF WORK		Numbers below represent the year in which the work was done; e.g., 68 for 1968.																					
EXPLORATION DATA filed at the RESIDENT GEOLOGIST'S OFFICE COBALT		GEOLOGICAL	GEOCHEMICAL	TRENCHING, STRIPPING	DRILLING	ASSAY DATA	UNDERGROUND WORK	PROSPECTUS, NOTES, CORRESPONDENCE	AIRBORNE MAGNETOMETER	AIRBORNE ELECTROMAGNETIC	AIRBORNE RADIOMETRIC	GROUND MAGNETOMETER	GROUND ELECTROMAGNETIC	GROUND RADIOMETRIC	INDUCED POLARIZATON	SELF POTENTIAL	RESISTIVITY						
	COMPANY/AUTHOR (file number)																						
5	Casey Seneca Silver Mines Ltd. -Seneca Shaft filled with clay, workings reached from Langis #3						15- 16	48 53 57 57 62 82															
6	Dolphin-Miller Shaft Harmak Mining Co. Ltd. -Harmak Shaft (Nels Nelson Claim) Casey Cobalt-Silver Mining Co.(Mining Corp. of Canada Ltd.) (1) -Shaft name changed to Casey #5						14 18	19															
7	Dolphin-Miller Mines Ltd. (Milrot Claims) -Shaft name changed to Dolphin-Miller D-M Mines (Canadore Expl. Ltd.) Langis Silver & Cobalt Mining Co. Ltd. (2)				58U 58S 59 60 64*	58 60	58 64- 65	58 59 62															

GDIF FORM NO. 2

Some properties referenced to other property entries by a ○ symbol.

* Not found on map or in drillhole summary.

NEWSPAPER CLIPPINGS FILE

NOTE: A file of newspaper clippings about the companies listed below, who have worked in this area, is maintained in the Regional/Resident Geologist's Office , Cobalt.

Agnico-Eagle Mines Limited

GDIF FORM NO. 7

HARRIS TOWNSHIP

TYPE OF WORK		Numbers below represent the year in which the work was done; e.g., 68 for 1968.																			
EXPLORATION DATA filed at the RESIDENT GEOLOGIST'S OFFICE COBALT		GEOLOGICAL	GEOCHEMICAL	TRENCHING, STRIPPING	DRILLING	ASSAY DATA	UNDERGROUND WORK	PROSPECTUS, NOTES, CORRESPONDENCE	AIRBORNE MAGNETOMETER	AIRBORNE ELECTROMAGNETIC	AIRBORNE RADIOMETRIC	GROUND MAGNETOMETER	GROUND ELECTROMAGNETIC	GROUND RADIOMETRIC	INDUCED POLARIZATON	SELF POTENTIAL	RESISTIVITY	SEISMIC		
	COMPANY/AUTHOR (file number)																				
8	Dominion Gulf Co.																	52			
9	Lake Timiskaming No. 1 Drillhole				63	63		63													
10	Logan				62																
11	Miller, H.G.*																				
12	Rayrock Mines Limited (Benner-Harris)	60		60 61	60 61							60					60				
13	Snider-Cushing-McKerral				64	64															
14	Trethewey Silver Cobalt Mines Ltd.			14				51 62													
15	Ministry of Northern Development and Mines				86																

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* No data available as of June 25, 1987.

GDIF FORM NO. 2

Logs on file at Agnico-Eagle's Langis Mine*

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth DEGREES	Initial Dip of Hole DEGREES	Thickness of Overburden FEET	Total Length of Hole FEET	Mineralization Noted in Log	Assay Data Included for
1	Dolphin-Miller Mines Ltd. (underground from 220' level) (N.M. Sept. 4/58)	DM1	1958	270	-18		607	py, ars	Ag
2a	Dolphin-Miller Mines Ltd.	DM4	* 1960	312	-45	16	299	py	Ag
2b		DM5	* 1960	283	-47	29	354	cp, hem	Ag
2c		DM6	* 1960	283	-45	20	457	cp, hem, py, anna, gn, Co	
2d		DM8	* 1960	283	-55	21	396	cp, hem, py, arg	Ag
2e		DM14	* 1960	257	-45	39	371	Co, arg, py, cp, hem	Ag
3a	Dolphin-Miller Mines Ltd.	DM7	* 1960	319	-45	42	606	anna, py, mgst	Ag
3b		DM9	* 1960	040	-45	43	347	cp	Ag
3c		DM10	* 1960	040	-45	70	413		
3d		DM11	* 1960	120	-45	48	79	py, cp, Ag	
3e		DM12	* 1960	120	-45	48	425	hem, lim, cp py, cp	Ag
3f		DM13	* 1960	220	-45	46	746	py, cp, hem	Ag

GDIF FORM NO. 3

Logs on file at Agnico-Eagle's Langis Mine*

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth DEGREES	Initial Dip of Hole DEGREES	Thickness of Overburden FEET	Total Length of Hole FEET	Mineralization Noted in Log	Assay Data Included for
4 a	Agnico-Eagle Mines Ltd.	79-1	* 1979	180	-42	28	463	py	Ag
4 b		79-2	* 1979	180	-38	28	701	cp	Ag
4 c		79-3	* 1979	215	-45	46	685	py	Ag
5	Agnico-Eagle Mines Ltd.	79-4	*1979	180	-44	34	700	py	Ag
6	Lake Timiskaming No. 1 Drillhole	1	1963	-	-90	27	1388	dol, ls, sh, gyp, IF, mag, ch, hem	Fe, SiO_2, P_2O_5, Mn, Ti, S
7	Logan Water Well		1962	-	-90	200	205	ls	
8a	Rayrock Mines Ltd.	6	1960	000	-45	36	175	hem, py, cp	
8b		7	1960	000	-50	4	448	hem, cp, gn, sp	Ag
8c		1	1960	318	-60	20	352	cp	
8d		4	1960	318	-50	13	481	hem, py, cp, sm, gn, po, sp	
8e		10	1960	318	-46	15	448	py, ch, sp, po, mag	
8f		8	1960	320	-52	14	448	py, cp, hem, gn, sp, ch, po	

GDIF FORM NO. 3

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth DEGREES	Initial Dip of Hole DEGREES	Thickness of Overburden FEET	Total Length of Hole FEET	Mineralization Noted in Log	Assay Data Included for
9a	Rayrock Mines Ltd.	2	1960	145	-45	19	228	py, cp, gn, sp	
9b		3	1960	145	-45	15	233	cp, hem, gn, sp, po, py	
9c		5	1960	140	-45	11	304	cp, hem, gn, po, py	Ag
9d		9	1960	353	-45	6	526	Ag, py, ch	
9e		11	1961	145	-30	11	254	hem	
9f		12	1961	338	-50	5	303	py, ch	
9g		14	1961	338	-50	9	232	Co, cp, sp, gn, gyp	
9h		15	1961	338	-30	23	317	py, cp, Co, gn	Ag
9i		16	1961	000		21	277	hem, py, cp, Co, sp, gn	Ag
9j		17	1961	054		21	254	Co, py, ars, gn	Ag
9k		18	1961	000	-30	45	310	Co, py, hem	
9l		19	1961	234	-30	44	205	Co	
9m		20	NO LOG						
9n		21	1961	180	-30	38	250	Co, py, sp, gn	
9o		22	1961	151	-45	41	278	py, co, gn, hem	
9p		23	1961	338	-45	21	460	cp, py, gn	

GDIF FORM NO. 3

Logs on file at Agnico-Eagle's Langis Mine*

HARRIS TOWNSHIP

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth DEGREES	Initial Dip of Hole DEGREES	Thickness of Overburden FEET	Total Length of Hole FEET	Mineralization Noted in Log	Assay Data Included for
9q	Rayrock Mines Ltd.	26	1961	234	-30	45	267	hem, py, cp, gn, sp, po	
10	Rayrock Mines Ltd.	29	1961	126	-30	81	403	cp	
11	Rayrock Mines Ltd.	28	1961	126	-30	7	263	hem, py, po	
12a	Rayrock Mines Ltd.	14	1961	338	-50	11	247	py	
12b		24	1961	338	-45	29	469	hem, py, cp	Ag
13	Rayrock Mines Ltd.	25	1961	000	-45	9	478	py, hem	
14	Rayrock Mines Ltd.	27	1961	150	-45	5	325	hem, py, mag	
15a	Agnico-Eagle Mines Ltd.	85-1	*1985	036	-55	14	328		Ag
15b		85-2 ●	*1985	270	-45	19	1512	py, cp	Ag
15c		85-3 ●	*1985	161	-50	76	402	hem, py	Ag
15d		85-13	*1985	161	-60	110	734		
15e		85-14	*1985	161	-50	110	1173	py	Ag
15f		85-15	*1985	161	-50	13	388		Ag
15g		87-1	*1987	-	-90	0	347	hem, py	Ag

GDIF FORM NO. 3

●Core stored at the Cobalt Core Library.

Logs on file at Agnico-Eagle's Langis Mine*

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth DEGREES	Initial Dip of Hole DEGREES	Thickness of Overburden FEET	Total Length of Hole FEET	Mineralization Noted in Log	Assay Data Included for
16a	Agnico-Eagle Mines Ltd.	85-4	* 1985	220	-45	24	636	py, po	Ag
16b		85-5	* 1985	208	-45	19	426	cp, py, gn, sp	Ag
16c		85-7	* 1985	208	-45	19	426	py	Ag
17	Agnico-Eagle Mines Ltd.	85-6	* 1985	201	-45	8	601	py	Ag
18a	Agnico-Eagle Mines Ltd.	85-8	* 1985	197	-45	0	596	py	Ag
18b		85-9	* 1985	300	-45	6	786		Ag
19	Snider-Cushing-McKerral	1	1964			17	102	ls	CaO, MgO
20	Snider-Cushing-McKerral	2	1964			22	102	ls	CaO, MgO
21	Trethewey Silver Cobalt Mines Ltd.	1	1914	270	-47	26	919		
22	Trethewey Silver Cobalt Mines Ltd.	2	1914	270	-45	40	307		
23	Trethewey Silver Cobalt Mines Ltd.	3	1914	270	-40	0	439		
24	Trethewey Silver Cobalt Mines Ltd.	4	1914	270	-40	148	416		

GDIF FORM NO. 3

Logs on file at Agnico-Eagle's Langis Mine*

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth DEGREES	Initial Dip of Hole DEGREES	Thickness of Overburden FEET	Total Length of Hole FEET	Mineralization Noted in Log	Assay Data Included for
25	Agnico-Eagle Mines Ltd.	85-10	* 1985	333	-45	26	676	py	
26a	Agnico-Eagle Mines Ltd.	85-11	* 1985	027	-45	75	346	py, Co	Ag
26b		85-12	* 1985	048	-45	75	255		Ag
27	Agnico-Eagle Mines Ltd.	79-5	* 1979	156	-37	36	1340		Ag
28	Agnico-Eagle Mines Ltd.	86-19	* 1986	023	-45	124	1483	py	Ag
29	Agnico-Eagle Mines Ltd.	87-2	* 1987	118	-45	11	756	py, po, cp	Ag
30	Agnico-Eagle Mines Ltd.	87-3	* 1987	330	-45	238	1647	py, po	Ag
31	Agnico Eagle Mines Ltd.	87-4	* 1987	290	-45	174	1490	hem, py, po	Ag
32a	Langis Silver and Cobalt Mining Co. Ltd.	S-1	* 1957		-60	4	266		
32b		S-2	* 1957	160	-45	4	306	py	
32c		S-3	* 1957	340	-45	6	302	py	
32d		S-7	* 1957	340	-45	14	416		
32e		S-8	* 1957	257	-45	14	315		
32f		S-12	* 1958	340	-45	23	332	Co, py	
32g		S-13	* 1958	340	-45	14	276		

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Logs on file at Agnico-Eagle's Langis Mine*

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth DEGREES	Initial Dip of Hole DEGREES	Thickness of Overburden FEET	Total Length of Hole FEET	Mineralization Noted in Log	Assay Data Included for
32h	Langis Silver and Cobalt Mining Co. Ltd.	S-24	*1959	257	-45	19	261	py	
32i		S-25	*1959	257	-45	12	198		Ag
32j		S-31	*1959	319	-45	3	203	Ag, arg	Ag
32k		S-33	*1959	017	-45	5	276	py, cp	Ag
32l		S-35	*1959	319	-45	11	272	py, cp	Ag
32m		S-39	*1959	220	-45	6	124	py	Ag
32n		S-40	*1959	200	-45	28	125	py	
32o		S-41	*1959	200	-45	39	129	py, cp	Ag
32p		S-42	*1959	190	-45	50	125	cp, py, Ag	Ag
32q		S-43	*1959	220	-45	5	126		Ag
32r		S-44	*1959	220	-45	9	124	py, cp	Ag
32s		S-45	*1959	301	-45	25	289	cp, py, Co, Ag	Ag
32t		S-46	*1959	301	-45	6	298		Ag
33a	Langis Silver and Cobalt Mining Co. Ltd.	S-4	*1957	340	-45	14	391	py, cp	
33b		S-5	*1957	273	-45	0	292	Co	
33c		S-6	*1957	255	-45	14	250		
33d		S-9	*1957	251	-45	7	254	Co	Ag, Co
33e		S-14	*1958	250	-14	25	205	py, cp	
33f		S-15	*1958	282	-35	0	72		

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Logs on file at Agnico-Eagle's Langis Mine*

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth DEGREES	Initial Dip of Hole DEGREES	Thickness of Overburden FEET	Total Length of Hole FEET	Mineralization Noted in Log	Assay Data Included for
33g	Langis Silver and Cobalt Mining Co. Ltd.	S-26	*1959	257	-45	6	225	gn, sp, Zn, py	Ag
33h		S-27	*1959	273	-45	8	256	sm, cp, py	Ag
33i		S-28	*1959	270	-45	7	250	cp, sp, sm	Ag
34	Langis Silver and Cobalt Mining Co. Ltd.	S-65	*1963	225	-45	126	723		Ag
35	Langis Silver and Cobalt Mining Co. Ltd.	S-64	*1963	-	-90	130	296	cp	
36	Langis Silver and Cobalt Mining Co. Ltd.	S-36	*1959	270	-45	9	446	cp, Co, py	Ag
37	Langis Silver and Cobalt Mining Co. Ltd.	S-11	*1958	340	-46	33	348		
38a	Langis Silver and Cobalt Mining Co. Ltd.	S-10	*1957	-	-90	46	404		
38b		S-37	*1959	270	-45	16	223	py	Ag
38c		S-47	*1960	270	-46	18	275	Ag, cp, arg, gn, sp, py	Ag
38d		S-48	*1960	270	-45	11	285	anna	Ag
38e		S-49	*1960		-45	25	261	anna, py	Ag
38f		S-50	*1960		-45	14	260	py, cp, hem	Ag

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Logs on file at Agnico-Eagle's Langis Mine*

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth DEGREES	Initial Dip of Hole DEGREE	Thickness of Overburden FEET	Total Length of Hole FEET	Mineralization Noted in Log	Assay Data Included for
38g	Langis Silver and Cobalt Mining Co. Ltd.	S-51	*1960	270	-45	23	252	Co, Ag	Ag
38h		S-57	*1963	270	-45	20	269		Ag
39	Ministry of Northern Development & Mines OFR 5661	MNDM-3 ●	1986	-	-90	0	49	ls, dol, ch	
40	Ministry of Northern Development & Mines OFR 5661	MNDM-4 ●	1986	-	-90	0	54	dol, ch	
41	Ministry of Northern Development & Mines OFR 5661	MNDM-5 ●	1986	-	-90	0	54	dol	
42	Ministry of Northern Development & Mines OFR 5661	MNDM-6 ●	1986	-	-90	0	29	ls, dol, clay	
43	Dolphin-Miller Mines Ltd.	DM-15	*1960	033	-45	18	247	hem	
44a	Dolphin-Miller Mines Ltd.	DM-2	*1959	257	-45	0	745		
44b		DM-3	*1960	013	-45	7	233		
45	Langis Silver and Cobalt Mining Co. Ltd.	S-38	*1959	090	-45	2	368	cp, py, sp	Ag

GDIF FORM NO. 3

●Core stored at the Cobalt Core Library.

HARRIS TOWNSHIP

AIRBORNE GEOPHYSICAL SURVEY DATA

No.	By For	Type of Survey	Flight Altitude	Flight Line Direction	Flight Line Spacing
	No data available as of June 25, 1987.				

GDIF FORM NO. 4

Map Sample Site Reference Number	GEOCHEMICAL SURVEY DATA		By	Reference
	Type of Survey	Analysis For		
	No data available as of June 25, 1987.			

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ODM GENERAL INDEX SEARCH

Words searched: Agnico-Eagle Mines Ltd.
Benner, K. J.
Benner-Harris
Candore Explorations Ltd.
Casey-Cobalt Silver Mining Co.
Casey-Harris Mining Co.
Casey-Kismet Mining Co.

Index Volume	Listing:	Report Volume	Part	Page
1	Casey Cobalt Silver Mine, Casey Twp.			
	Accidents	*20	1	73,82
		*22	1	74
	Argentite	*25	1	206
	analysis	*25	1	207
	Capital and date of charter	*16	1	28
		*16	2	172
	Concentrating at	*19	2	255
		*22	1	109
		*23	1	129
	Dividends	*19	2	37
		*23	1	17
		*24	1	18,19
		*25	1	6
	Financial Notes	*25	1	6
	Notes by Hore	*19	2	148
	Officers	*24	1	109
		*25	1	106
	Photo	*23	1	133
	Producing	*17		14
		*18	1	10
		*19	1	14
		*20	1	11
		*23	1	19
		*23	1	16
	Production	*18	1	15
		*22	2	13,22
		*23	1	11
		*24	1	14
		*25	1	11
	Taxes paid by (1915)	*24	1	56
		*25	1	46
	Work at	*16	2	72
		*18	1	99
		*19	1	96
		*19	2	145
		*21	1	51,119
		*22	1	110,111
		*23	1	132
		*24	1	109
		*25	1	106

ODM GENERAL INDEX SEARCH

Words searched: Casey-Seneca Silver Mines Ltd.
Casey-Sutton Mining Co.
Cocase Prospecting Syndicate
Dawson Point
Detta Minerals Ltd.
Dolphin Miller Mines Ltd.
Dominion Gulf Co.

Index Volume	Listing:	Report Volume	Part	Page
1	Casey Harris Mining Co.			
	Capital and date of charter	*25	1	106
	Casey Kismet Mining Co.			
	Capital and date of charter	*22	1	54
	Casey Seneca Silver Mines Ltd.			
	Capital and date of charter	*25	1	42
	Officers of	*25	1	106
	Work by	*25	1	106
	Dawson Pt. Lake Timiskaming			
	Rocks	*13	2	87
		*19	2	231
	Harris Twp., Timiskaming			
	Glacial Striae	*19	2	111
	Mining & geological notes	*16	2	131,132
		*19	2	145,148
	Mining Corp. of Canada Ltd.			
	Work at Mines of	*25	1	114
	Murray Silver Mine, Casey Twp.			
	Idle (1906)	*16	2	131
		*19	2	145
	Plant Installed	*28	1	50

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ODM GENERAL INDEX SEARCH

Words searched:
Harmak Mining Co. Ltd.
Harris Township
Lake Temiskaming No. 1 Drillhole
Langis Silver & Cobalt Mining Co. Ltd.
Miller, H.G.
Milrot Claims
Mining Corp. of Canada Ltd.

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1	Wabi Bay, Lake Timiskaming				
	Course		*14	2	36
			*16	2	36
			*19	2	119
	Rocks on and near		*13	2	85-87
			*19	2	229
	Striae		*19	2	111
2	Casey-Cobalt Silver Mine, Casey Twp.				
	Accidents		*27	1	84
			*29	1	64
	Diamond Drilling		*29	1	92
	Fire		*26		111
	Flow Sheet, Facing		*31	2	274
	Notes		*31	3	15
	Operations	(1916)	*26		111
		(1917)	*27	1	116,117
		(1918)	*28	1	133
	Ore, high grade		*31	2	13
	Origin		*31	3	8
	Production	(1916)	*26		8
		(1918)	*28	1	15
		(1919)	*29	1	9
		(1922)	*32	1	10
		(1908-1922)	*31	2	18
			*31	3	1
		from clean up	*31	1	8
	Casey-Cobalt Silver Mg. Co.				
	Financial Details		*32	1	14

ODM GENERAL INDEX SEARCH

Words searched: Murray Silver Mine
Nels Nelson Claims
Rayrock Mines Ltd.
Snider-Cushing-McKerral
Sutton Bay
Trethewey Silver Cobalt Mines Ltd.
Wabi Bay

Index Volume	Listing:		Report Volume	Part	Page
2	Casey-Cobalt Silver Mg. Co. (cont.)				
	dividends	(1916)	*26		16
		(1917)	*27	1	14
		(1918)	*28	1	20
		(1919)	*29	1	12
		(1920)	*30	1	14
		(1921)	*31	1	13
			*31	2	24
		(1922)	*31	2	20
			*32	1	14
		(to 1923)	*33	1	12
		(to 1924)	*35	1	21
	profit tax		*26		62
			*27	1	74
			*29	1	57
	Casey-Kismet Silver Mine, Casey Twp.				
	Production		*31	2	18
	Profit tax		*31	1	52
	Casey-Seneca Silver Mines Ltd.				
	Fire		*26		112
	Dawson Pt., Timiskaming Lake				
	Cataract formation		*31	3	8
	Lockport formation, photo		*31	3	17
	Niagara formation		*31	2	338
	Harmak Mining Co.				
	Capital and date of charter		*28	1	84
	Claim worked by Casey-Cobalt Silver Mg. Co.		*28	1	133

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	Diabase		*31	3	7
	See also map 31b with		*31	3	
	Nels Nelson Silver Mine, Casey Twp.				
	Development work		*28	1	141
3	Casey-Cobalt Silver Mining Co. Ltd.				
	Dividend		*47	1	30
4	Casey Cobalt Silver Mine Casey Twp.				
	Operations	(1946)	56	2	105
		(1947)	57	2	107
		(1948)	58	2	96
		(1949)	59	2	95
	Casey Operation				
	See also New Casey Silver Mines				
	Partners, operations	(1946)	56	2	105
	Operations	(1947)	57	2	107
	Harris Twp., Timiskaming				
	Silver Cobalt Mining. See Casey Cobalt s.m.				
5	Benner, K.J.				
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	United Cobalt Mines		61	2	108
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5	Casey Cobalt Silver Mine, Casey Twp.				
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		(1954)	64	2	129
	Langis Silver and Cobalt Mining Co. Ltd.				
	Capital; officers; operations	(1953)	63	2	134
		(1954)	64	2	129
	Incorporated		63	1	57
	Rayrock Mines Ltd.				
	Change of name		64	1	60
6	Benner, K.J.				
	Of Langis Silver and Cobalt Mining Co.		69	2	99
	Candore Explorations Ltd.				
	See also Detta Minerals				
	Change of name		66	1	36
	Dolphin-Miller Mines Ltd.				
	Capital; officers; operations		68	2	99
	Harris Twp., Timiskaming				
	Silver-cobalt mining. See Casey Cobalt s.m.				
	Langis Silver and Cobalt Mining Co. Ltd.				
	Capital; officers; operations	(1955)	65	2	130
		(1956)	66	2	128
		(1957)	67	2	134
		(1958)	68	2	99,100
		(1959)	69	2	99

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7	Benner, K.J.			
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		73		125
	Of Langis Silver and Cobalt Mg. Co.	70		114
		71		122
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	Silver-cobalt property, Casey Twp.	GR36		60
	Benner-Harris Claim Group			
	Property, report on	GR36		59-63
	Plans with	GR36		
	Candore Exploration Ltd.			
	Capital; officers; operations(1963)	73		125
	Dolphin-Miller Mine, Harris Twp.	GR36		63
	Casey Cobalt Silver Mine			
	Casey and Harris Twp.			
	Operations (1960)	70		114
	(1961)	71		123
	(1962)	72		130
	(1963)	73		132
	See also Langis Mine			
	Casey Cobalt Silver Mining Co.			
	Dolphin-Miller Mine, Harris Twp.	GR36		63
	Casey-Seneca Silver Mines Ltd.			
	Mining property, Harris Twp.			
	report on	GR36		64

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	Claims, Casey Twp.	GR36		67
	Dawson Point, Lake Timiskaming			
	Rocks	GR36		26,31
	Dolphin-Miller Mines Ltd.			
	Capital; officers; operations(1960)	70		114
	Mining property, Harris Twp.	GR36		55,63-64
	Dominion Gulf Co.			
	Assessment work, Casey and Harris Twps.	GR36		55
	Harmak Mining Co.			
	Former owner, Dolphin-Miller m.	GR36		63
	Harris Township, Timiskaming			
	Assessment work	GR36		55
	Magnetic anomaly	GR36		14
	Mining properties	GR36		58-65
	Report on geology	GR36		
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	Silver-Cobalt mining			
	Annual Reports. See Casey Cobalt s.m. Dolphin-Miller Mines			

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	Paleozoic outlier	GR36		32,133
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	Langis Silver Mine, Casey Twp.			
	Faulting	GR36		39-41
	Geology	GR36		69
	History	GR36		66-68
	Mineral deposits	GR36		44-54
	Photo	GR36		67
	Plans, Chart A with	GR36		
	Production statistics	GR36		66
	Rocks	GR36		7,8,15 18-21,23
	Langis Silver and Cobalt Mining Co. Ltd.			
	Capital; officers; operations (1960)	70		114
	(1961)	71		122-124
	(1962)	72		130
	(1963)	73		132-134
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	Of Dolphin-Miller Mines	70		114
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	Development work, Harris Twp.	GR36		63
	Murray Mining Corp. Ltd.			
	Option, Casey Cobalt Mine, Casey Twp.	GR36		70
	Rayrock Mines Ltd.			
	Exploration Benner-Harris Group	GR36		60
	Trethewey Silver Cobalt Mine Ltd.			
	Mining property, Harris Twp.	GR36		65
8	Benner-Harris Property			
	Harris Twp., Timiskaming District			
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	Harris Twp., Timiskaming District			
	mining property, report on	MRC10		324
	Dolphin-Miller Property			
	Harris Twp., Timiskaming District			
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	Lake Timiskaming			
	Cobalt area, Timiskaming District	GR83		4-82 passim
	Lake Timiskaming Fault			
	Cobalt area, Timiskaming District	GR83 MP 5		22 35
	Langis Silver and Cobalt Mining Co. Ltd.			
	Casey Twp. area, Timiskaming District			
	mining property, report on	78 MP 18 MP 25 MRC 10		111-113 4 4 320-321
	report on Dolphin-Miller property	74 75 76 77		128-130 130-132 151-153 140-141
9	Agnico-Eagle Mines Ltd.			
	Cobalt-Gowganda area, Timiskaming District	ASR 7 MP 64		111-112 77
	Dawson Point Formation			
	Lithology			
	Englehart-Earlton area, Timiskaming District	MP 69		7

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9	Dawson Point Formation (cont.)			
	New Liskeard area, Timiskaming District	GR 144		14
	*Out of Print			

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Author	Date	Title	Reference	Map Scales and/or Report Pages
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Pyke, D.R., Ayres, L.D., Innes, D.G.	1973	Timmins-Kirkland Lake Geological Compilation Series, Cochrane, Sudbury and Timiskaming District, Ontario	OGS Map 2205	1:253 440
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Easton	1986	Geochronology Compilation Map for Ontario; Sheet 3: East Central Ontario, All Isotopic Systems	OGS Map P.2842	1:1 013 760
		GEOPHYSICAL MAPS		
	1965	Cobalt, Ontario-Quebec, NTS 31M/5	GSC Map 1492G	1:63 360
	1965	New Liskeard, Ontario-Quebec NTS 31M/12	GSC Map 1493G	1:63 360
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Author	Date	Title	Reference	Map Scales and/or Report Pages
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	1981	Magnetic Anomaly Map, Timiskaming-Kapuskasing Region	GSC Map 1563A	1:1 000 000
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Mansinha, L., Wilkinson, D.A.	1983	Interpretation of Gravity Data from New Liskeard, Ontario; Ontario Geoscience Research Grant Program, Grant No.109	OGS OFR 5440	
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SELECTED REFERENCES

Author	Date	Title	Reference	Map Scales and/or Report Pages
		GEOPHYSICAL MAPS		
		Aeromagnetic Map	GSC Map 7075G	1:253 440
		Earth Physics Branch Gravity Map Series	EPB Maps No.84,134	1:500 000
		SURFICIAL, PLEISTOCENE, TERRAIN ENGINEERING		
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	1951	New Liskeard, Ontario, topographic	NTS 31M/NW	1:126 720
	1956	Cobalt, Ontario-Quebec, topographic	NTS 31M/5 31M/SE,31M/SW	1:50 000
	1976	Ville Marie, Quebec-Ontario, topographic	NTS 31M	1:250 000
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Author	Date	Title	Reference	Map Scales and/or Report Pages
		SURFICIAL, PLEISTOCENE, TERRAIN ENGINEERING		
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		Harris Township Claim Maps	MNR Plan No. M-493	1"=40 ch.
		MINERAL POTENTIAL		
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Springer, J.	1977	Ontario Mineral Potential Map, Gogama Sheet and part of Ville Marie Sheet, District of Sudbury and Timiskaming	OGS Map P.1514	1:250 000
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Hornbrook, E.H.W.	1972	Geochemical and biogeochemical exploration methods of research in the Cobalt area, Ontario	GSC Paper 71-32	45p.
Dillon-Leitch, H.	1980	Alteration and Mineralization in Archean Volcanic Rocks of the Cobalt Area; in Summary of Field Work, 1980, edited by V.G. Milne et al, Ontario Geological Survey	OGS MP 96	No.S25 pp.191-194

GDIF FORM NO.9

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Author	Date	Title	Reference	Map Scales and/or Report Pages
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Bell, R.	1906	The Cobalt Mining District, Ontario	*GSC Summary Report, 1905	pp.94-105
Bell, R.	1907	Cobalt District and Northward	*GSC Summary Report, 1906	pp.110-112
Miller, W.G.	1907	Lake Temiskaming Cobalt, Nickel, Arsenic Silver Area	*ODM Map 16C	1:63 360
Parks, W.A.	1907	The Geology of a District from Lake Temiskaming Northward	*GSC Annual Report, 1904 Vol.XVI,pt.A	pp.198-225
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Hore, R.E.	1908	Other Temiskaming Cobalt Areas, A Mineralized Area in Townships of Casey and Harris	*ODM AR, 1907 Volume 16, pt.2, ch.3	pp.131-134
Brock, R.W.	1909	The Huronian Conglomerate of the Cobalt District	*GSC Summary Report 1908	pp.12-13
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Burrows, A.G., Knight, C.W.	1913	Map of Sudbury-Cobalt-Porcupine Region, Ontario	*ODM Map 22h	1:506 800

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Author	Date	Title	Reference	Map Scales and/or Report Pages
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Williams, M.Y.	1915	The Ordovician Rocks of Lake Timiskaming	*GSC Museum Bulletin 17	
Hume, G.S.	1917	Paleozoic Rocks of Lake Temiskaming Area	*GSC Summary Report, 1916 *GSC Map 1673	pp.188-192
Burrows, A.G. Hopkins, P.E.	1922	Blanche River Area, Timiskaming District, Ontario	*ODM Annual Report 31, pt.3	
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Hume, G.S.	1925	The Paleozoic Outlier of Lake Temiskaming, Ontario and Quebec	*GSC Memoir 145	
Savage, W.S., Thomson, R., Kenwick, K.G.	1962	Elk Lake-New Liskeard Sheet, District of Timiskaming, Ontario	ODM Map P.159	1:126 720
Thomson, R.	1962	Harris Township, District of Timiskaming, Ontario	ODM Map P.163	1:15 840
Thomson, R.	1964	Casey and Harris Townships, Timiskaming District, Ontario	ODM Map P.2066	1:31 680
Copeland, M.J.	1965	Ordovician Ostracoda from Lake Timiskaming, Ontario	GSC Paper 127	77p.
Sinclair, G.W.	1965	Succession of Ordovician Rocks at Lake Timiskaming, Ontario	GSC Paper 65-34	6p.

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Author	Date	Title	Reference	Map Scales and/or Report Pages
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Roscoe, S.M.	1969	Huronian Rocks and Uraniferous Conglomerates in the Canadian Shield	GSC Paper 68-40	205 p.
Lovell, H.L., Caine, T.W.	1970	Lake Timiskaming Rift Valley, Ontario	ODM MP 39	
Bolton, T.E., Copeland, M.J.	1972	Paleozoic formations and Silurian biostratigraphy, Lake Timiskaming Region, Ontario and Quebec	GSC Paper 72-15	49 p.
Lovell, H.L., Frey, E.D.	1972	Geology of the New Liskeard Area Timiskaming District, Ontario	ODM OFR 5083	
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Wood, J.	1979	Regional Geology of the Cobalt Embayment, Districts of Sudbury, Nipissing and Timiskaming; in Summary of Field Work, 1979, edited by V.G. Milne et al, Ontario Geological Survey	OGS MP 90	No. S18 pp.79-81
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Carter, M.W.	1981	Shining Tree Area, Districts of Sudbury & Timiskaming	OGS OFR 5346	67 p.
Colvine, A.C.	1981	Reconnaissance of the Lorrain Formation, Northern Cobalt Embayment; in Summary of Field Work, 1981, edited by J. Wood et al, Ontario Geological Survey	OGS MP 100	No.29 pp.187-189

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Author	Date	Title	Reference	Map Scales and/or Report Pages
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Donaldson, J.A. et al	1984	Grant No.173, Sedimentary Rocks and Stratabound Mineralization in the Cobalt Region; in Geoscience Research Grant Program, Summary of Research 1983-1984, edited by V.G. Milne, Ontario Geological Survey	OGS MP 121	pp.198-210
H.G.E. Inc.	1984	Pre-Engineering Feasibility Study Limestone Crushing Facility in Northern Ontario	OGS OFR 5523	40p.
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Vos, M.A., Abolins, T., McKnight, R.L.W., Smith, V.	1987	Industrial Minerals of Northern Ontario	OGS MDC 26	
		* Out of Print		

NOTES AND ADDENDA

The exploration data map shows only the most important minerals found at each site. All the minerals noted are listed in the mineral occurrences or drillhole data.

On the maps, only areas for which work has been submitted to the Ministry are shown and thus a company may hold, or have held in the past, more ground than is shown.

Agnico-Eagle Mines Ltd. controls all the patented ground of the Langis (Casey), Dolphin-Miller, and Seneca Mines. Production has ceased from the Langis Mine #3 shaft as of November 1988, since the silver reserves are exhausted. All staff have been transferred to the newly completed Penna shaft to further explore and mine recently discovered silver veins. Levels from this shaft will eventually reach the Langis #6 workings to complete extraction of known reserves in this area. Since 1948, there has been considerable surface and underground diamond drilling, geological mapping, geochemical surveys, and a variety of geophysical surveys including seismic testing. The results of this work remain with Agnico-Eagle Mines Ltd.

AIR PHOTOS - on file in Toronto

Only 1977 photos are available for viewing at the Public Information Centre, Room 1640, Whitney Block.

Photos can also be ordered from the Public Information Centre for 1946, 1948, and 1970.

Year	Roll	Strip	Photo
1946	208	107	126-133
	208	108	123-130
	208	109	121-128
	208	110	34-41
	208	111	58-61
	208	111	1
1958	17	4721	294-297
1959	21	4722	113-119
	20	4721	166-168
	20	4720	189-191
1970	25	4724	113-120
	23	4723	202-207
	23	4722	176-180
	24	4721	216-219

NOTES AND ADDENDA

AIR PHOTOS - on File in Toronto

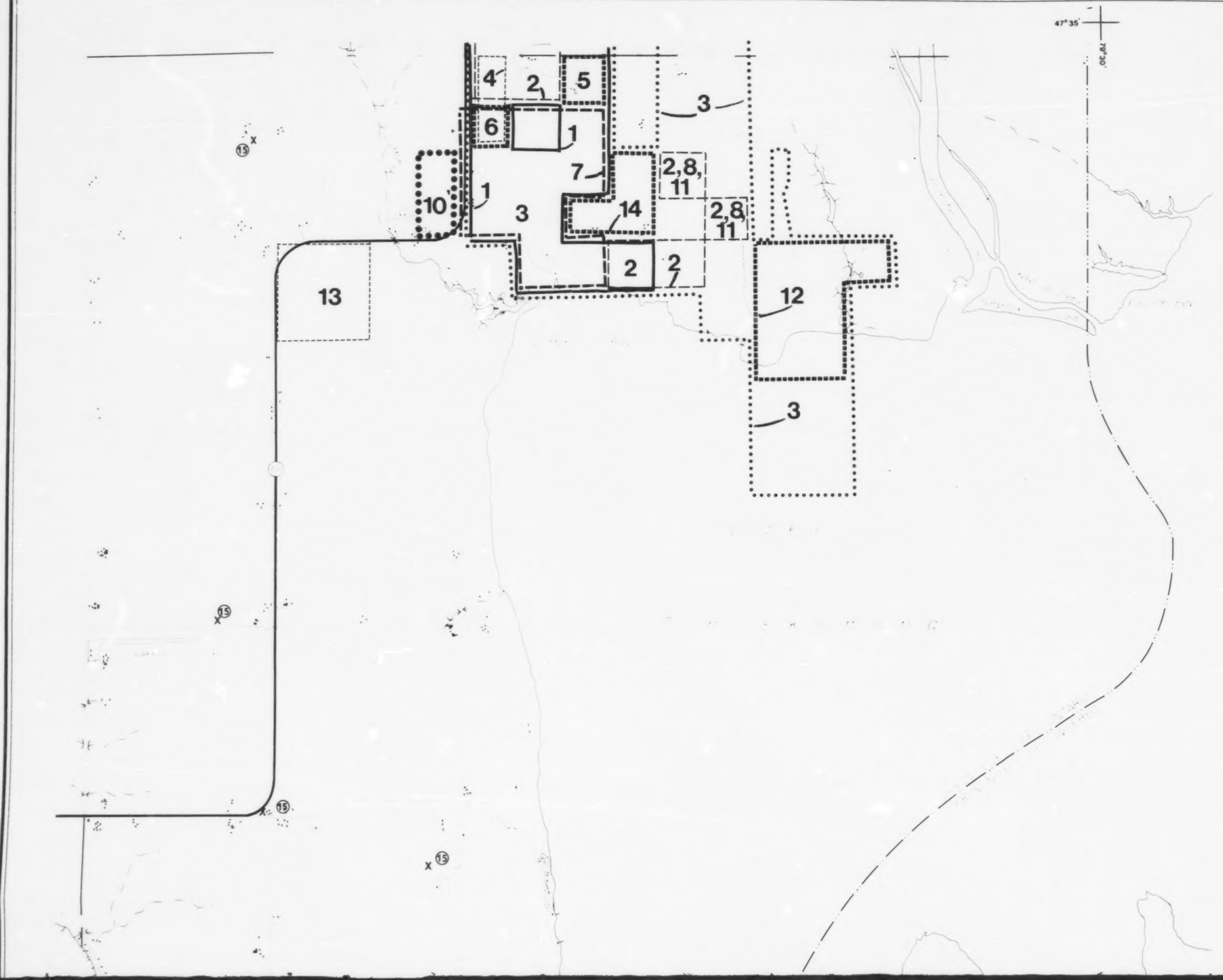
Continued:

Year	Roll	Strip	Photo
1977	1	4724	114-122
	45	4723	119-125
	45	4722	80-85
	45	4721	35-41
1978	14	4725	35-41
	14	4724	74-80
	14	4723	125-131
	07	4722	36-42

AIR PHOTOS - on File in Cobalt

Year	Roll	Strip	Photo
1946	208	108	124-129
	208	109	123-124
	208	110	34-36
	206	111	58-60
1970	23	4722	76-81
	23	4723	202-207
	25	4724	113-115

All drillholes marked with a * symbol are on file at Agnico-Eagle's Langis Mine



Ministry of Northern Development and Mines

Mines and Minerals Division

Ontario

ONTARIO GEOLOGICAL SURVEY

PROPERTY LOCATION MAP

GEOLOGICAL DATA INVENTORY FOLIO 462

(Map **1** of **2**)

HARRIS TOWNSHIP

Scale 1:31 680

Kilometre 0.5 0 0.5 1 Kilometre

Mile 0.5 0 0.5 1 Mile

Mile 0.5 0 0.5 1 Mile

79°35'

47°30'

9

EXPLORATION DATA FILE AREAS

- Reference number is always inside work area outlined. See listing in text pages.
- Small area of exploration
- File covers whole township or area

TYPES OF DATA SHOWN ON THIS MAP

GEOCHEMICAL AND GEOCHRONOLOGICAL DATA

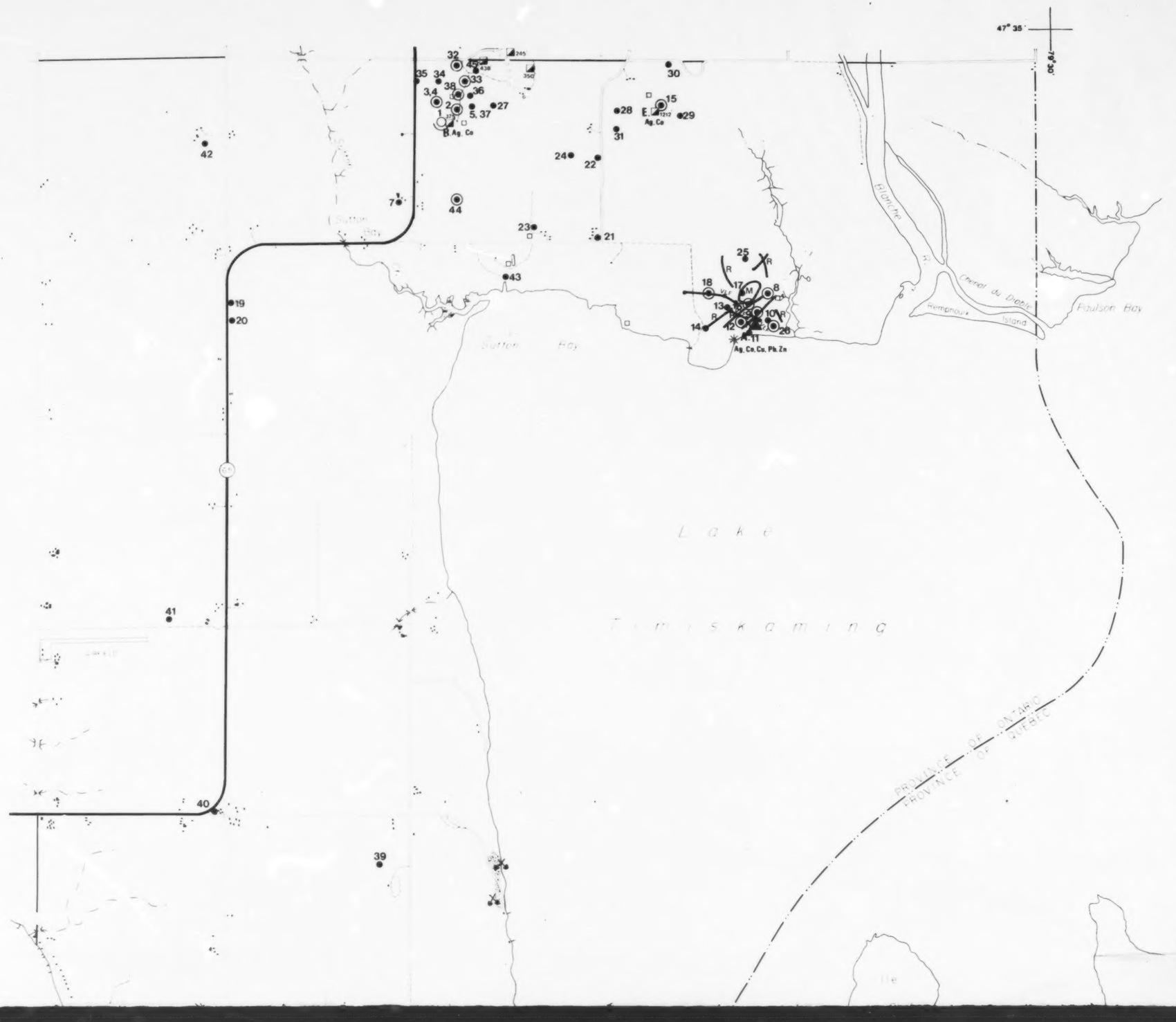
- ☐ Geochemical sample site, with reference number
- ☐ Area of geochemical sampling, with reference number
- ■ Age dating material sampling site, with reference number

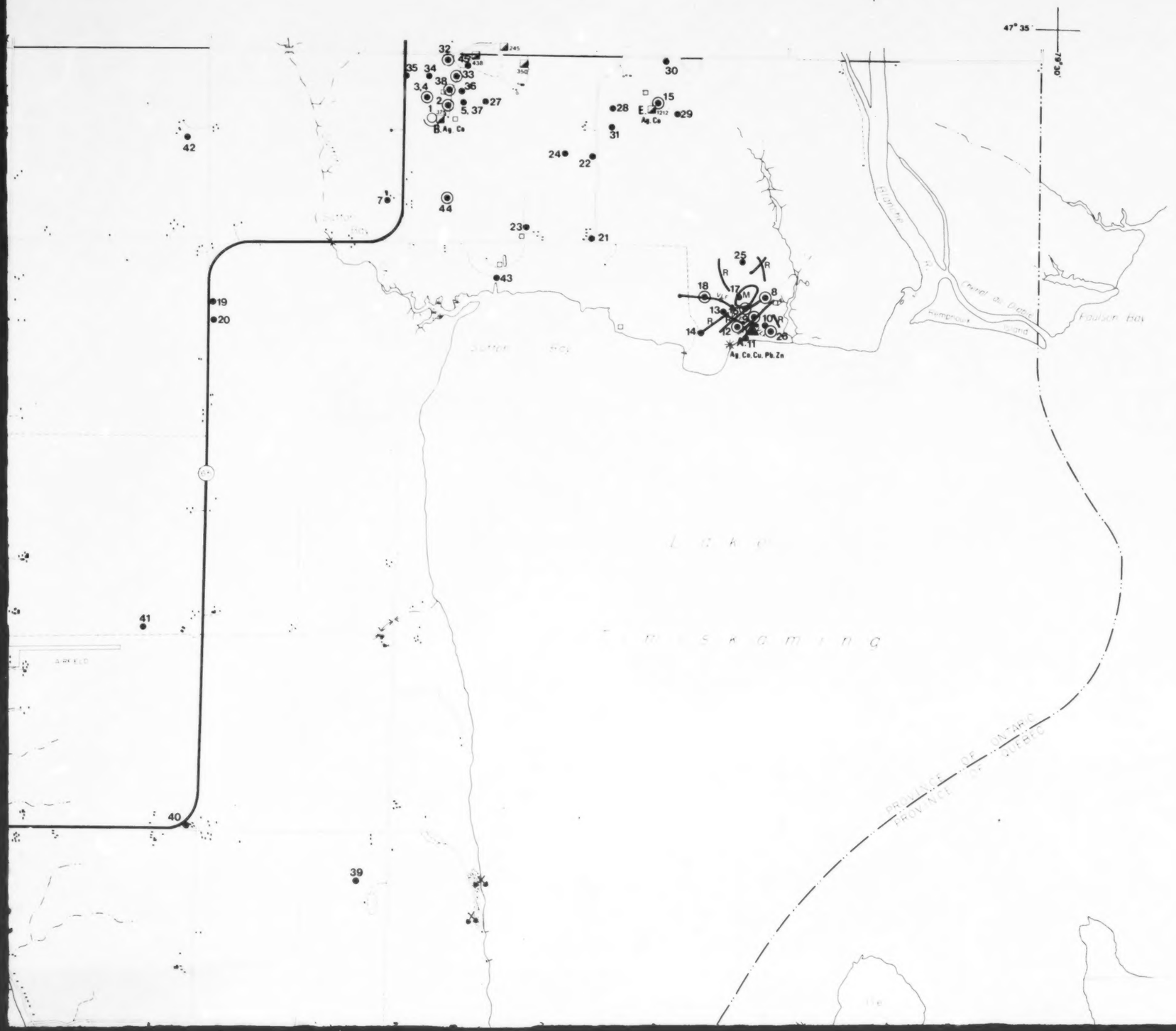
GEOPHYSICAL ANOMALIES

- ☐ Airborne magnetic anomaly
- ☐ Airborne electromagnetic anomaly
  Length of anomaly along flight line
- ☐ Airborne electromagnetic anomaly
  Location of anomaly along flight line
- ☐ Airborne electromagnetic anomaly
  Conductor axis: definite, probable, possible
- ☐ Airborne radiometric anomaly
- ■ Ground magnetic anomaly
- ■ Ground electromagnetic anomaly
  (VL - Vertical loop; HL - Horizontal loop
  VLF - Very low freq.; Turam; JEM - Crone Em - 16)
- ☐ Ground radiometric anomaly
- ☐ Induced polarization anomaly
- ☐ Self potential anomaly
- ☐ Audio-frequency magnetic anomaly
  (total intensity)
- ■ Resistivity anomaly
- ☐ Gravity anomaly

MISCELLANEOUS DATA

- ■ Trenching, pit
- ☐ Adit
- ☐ Rock quarry
- ■ Sand and/or gravel pit





Ministry of Northern Development and Mines

Mines and Minerals Division

Ontario

ONTARIO GEOLOGICAL SURVEY

EXPLORATION DATA MAP

GEOLOGICAL DATA INVENTORY FOLIO 462

(Map **2** of **2**)

HARRIS TOWNSHIP

Scale 1:31 680

Kilometre 0.5 0 0.5 1 Kilometre

Mile 0.5 0 0.5 1 Mile

GEOLOGICAL AND MINING SYMBOLS

TYPES OF DATA SHOWN ON THIS MAP

MINERAL OCCURRENCES

- cp A. — Mineral occurrence at surface, with reference letter
- Au A. 84' — Mineral occurrence with shaft, depth given with reference letter
- Ag A. — Mineral occurrence reported but exact location uncertain, with reference letter
- cp A. — Mineralized float with reference letter
- A. — Mineral occurrence in drillhole, with reference letter, and drillhole number

DRILLHOLES

- 2 — Location of single drillhole, with reference number
- 2 — Location of closely spaced group of drillholes, with reference number

Conductor axis: definite, probable, possible

- ☐ —ARA— Airborne radiometric anomaly
- ■ —M— Ground magnetic anomaly
- ■ —VL— Ground electromagnetic anomaly (VL - Vertical loop; HL - Horizontal loop VLF - Very low freq.; Turam; JEM - Crone Em - 16)
- ☐ —RA— Ground radiometric anomaly
- ☐ —IP— Induced polarization anomaly
- ☐ —SP— Self potential anomaly
- ☐ —AFMAG— Audio-frequency magnetic anomaly (total intensity)
- ■ —R— Resistivity anomaly
- ☐ —GR— Gravity anomaly

MISCELLANEOUS DATA

- ■ Trenching, pit
- ☐ Adit
- ☐ Open pit
- ☐ Rock quarry
- ■ Sand and/or gravel pit

NOTE: Consult the text that accompanies this map for pertinent lists of data, references, and abbreviations.

Scale 1:31 680

Kilometre 0.5 0 0.5 1 Kilometre

Mile 0.5 0 0.5 1 Mile

41

40

39

79°35'

47°30'

D. Is

C. IF

6

GEOLOGICAL AND MINING SYMBOLS

TYPES OF DATA SHOWN ON THIS MAP

MINERAL OCCURRENCES

- cp A. — Mineral occurrence at surface, with reference letter
- Au A. 84' — Mineral occurrence with shaft, depth given with reference letter
- Ag A. — Mineral occurrence reported but exact location uncertain, with reference letter
- cp A. — Mineralized float with reference letter
- A. — Mineral occurrence in drillhole, with reference letter, and drillhole number

DRILLHOLES

- 2 — Location of single drillhole, with reference number
- 2 — Location of closely spaced group of drillholes, with reference number
- (?)2 — Drillhole, exact location uncertain, with reference number
- Property with underground drillholes in this general area, with reference number
- 2 — Property with drillholes which have not been plotted on map, with reference number
- ⊕2 — Reverse circulation drillhole; churn drilling, with reference number